Field testing of the 2006 World Health Organization growth charts from birth to 2 years: assessment of hospital undernutrition and overnutrition rates and the usefulness of BMI.

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Abstract: The World Health Organization (WHO) recently released a growth standard, a first attempt at describing how children should grow in an ideal environment. These charts introduce body mass index (BMI)-for-age percentiles for children younger than 2 years. Adopting the WHO standard may affect the number of children screened to require follow-up; hence, field testing needs to be completed in a tertiary care center where the incidence of suboptimal nutrition is high. The objectives of this study were to quantify differences between the new WHO and 2000 Centers for Disease Control and Prevention (CDC) growth charts for children younger than 2 years. The interchangeability of the WHO weight-for-length and WHO BMI percentiles was also assessed.

Percentile scores were computed for children younger than 2 years (n = 547) admitted to a pediatric tertiary health care center in Toronto, Canada.

The WHO standard identified more children younger than 2 years as at risk of overweight/obesity compared with the CDC reference (21.0% vs 16.6%, >or=85th weight-for-length percentile) and fewer children as wasted (18.6% vs 23.0%, 25 percentile points.

These data describe for the first time the magnitude of differences in the number of children screened as undernourished (4.4% decrease) or overnourished (4.4% increase) with adoption of the WHO standard in a tertiary care setting. Furthermore, the WHO's BMI-for-age and weight-for-length percentiles for children younger than 2 years are correlated but are not interchangeable.

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